

**REMARKS**

Reconsideration of the application in light of the above amendments and the following remarks is respectfully requested.

**Status of the Claims**

Claims 1-7 and 9-12 are pending. Claim 8 was canceled by previous amendment. Claims 1, 5, 6, 11 and 12 have been amended. No new matter has been added.

Applicant appreciatively acknowledges the courtesy and effort extended by the Examiner to his representative, Richard J. Katz, during a telephonic Examiner Interview conducted on June 1 and 4, 2007. During the Interview the pending claims and the reference to Pankinaho was discussed. The Examiner acknowledged that contrary to what is written in the December 12, 2006 Office Action (*see* item 4, page 3), Pankinaho fails to disclose the feature of a “second function being periodic movement of said planar element,” as recited in independent claims 1, 11 and 12.

Applicant respectfully notes that the amendments to claims 1, 5, 6, 11 and 12 do not require a further search by the Examiner, as their subject matter was present in the claims when previous searches were performed. Thus, the amendments do not necessitate new grounds of rejection. Therefore should the Examiner issue another Office Action rejecting the pending claims based on art not already of record, Applicant submits that it would be improper to deem such Office Action a final action.

**Rejection under 35 U.S.C. §103**

Claims 1-3, 5 and 10-11 stand rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 6,140,966 to Pankinaho in view of U.S. Patent No. 6,927,732 to Mähringer. Applicant respectfully traverses the rejection.

In the Office Action, the Examiner contends that Pankinaho discloses most of the features of independent claims 1 and 11 including a “second function being periodic movement of said planar element.” The Examiner relies on Mähringer as disclosing a piezoelectric element attached to the planar antenna.

As discussed above, the Examiner has conceded in the June 1 and 4 telephonic Interview that Pankinaho fails to disclose all the features for which the Examiner relies on Pankinaho as disclosing. Accordingly, Applicant submits that the Examiner has failed to meet the burden of establishing a *prima facie* case of obviousness over independent claims 1 and 11. Claims 2-3, 5 and 10 depend from claim 1. Therefore, the Examiner has also failed to meet the burden of establishing a *prima facie* case of obviousness over claims 2-3, 5 and 10. Reconsideration and withdrawal of the rejection is requested.

Claim 4 stands rejected under 35 U.S.C. § 103(a) as unpatentable over Pankinaho and Mähringer in view of U.S. Patent No. 5,361,077 to Weber. Applicant respectfully traverses the rejection.

The Examiner relies on Weber as disclosing “two piezoelectric elements on an antenna.” (Detailed Action, item 5, page 9.) Claim 4 depends from claim 1, and recites its own features in addition to the features of its base claim. Applicant submits that Weber neither discloses, nor suggests, those features discussed above to be missing from Pankinaho and Mähringer. Therefore,





Claim 12 stands rejected under 35 U.S.C. § 103(a) as unpatentable over Pankinaho and Weber in view of Siwiak. Applicant respectfully traverses the rejection.

The Examiner relies on Weber as disclosing an overmoded acoustically coupled antenna, that includes two thin film piezoelectric resonators that are acoustically coupled. (Detailed Action, item 8, page 14.) Claim 12 depends from claim 1, and recites its own features in addition to the features of its base claim. Applicant submits that neither Weber nor Siwiak disclose, nor suggest, those features discussed above to be missing from Pankinaho. Therefore, the combination of Pankinaho, Weber, and Siwiak neither discloses, nor suggests, the features of claim 12. Thus, the Examiner has also failed to meet the burden of establishing a *prima facie* case of obviousness over claim 12.

Additionally, Weber discloses a radiator that is fed through a substrate 26 which mechanically oscillates. Conversion from electrical to mechanical mode, and vice versa, is accomplished by piezoelectric elements 34, 37 that are located on the opposite sides of the substrate. Although, Weber uses the wording “acoustic coupling,” this usage is a misnomer because sound waves are not generated by Weber.

Reconsideration and withdrawal of the rejection is requested.

#### **Discussion of the Mähringer Reference**

Mähringer discloses a piezo-ceramic layer 4 attached to a shaped membrane 2, and a shaped membrane crease 3 which encompasses the shaped membrane. (Mähringer, column 1, lines 50-54; Fig. 2.) Because of the shaped membrane crease 3, the piezo-ceramic layer in Mähringer can induce vibrations in only that portion of the radiating plane encompassed within the shaped membrane

crease. This would be understood by a person of ordinary skill in the art because the crease mechanically isolates the remainder of the radiating plane. Present independent claim 1 recites that “the periodic movement occurs in a **substantial portion of the planar element beyond the location of the piezoelectric element.**” This feature is similarly recited in independent claims 11-12.

## CONCLUSION

Each and every point raised in the Office Action dated December 12, 2006 has been addressed on the basis of the above amendments and remarks. In view of the foregoing it is believed that claims 1-7 and 9-12 are in condition for allowance and it is respectfully requested that the application be reconsidered and that all pending claims be allowed and the case passed to issue.

If there are any other issues remaining which the Examiner believes could be resolved through a Supplemental Response or an Examiner's Amendment, the Examiner is respectfully requested to contact the undersigned at the telephone number indicated below.

Dated: June 7, 2007

Respectfully submitted,

By

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